

Remarks/Arguments

The specification has been amended. Claims 1 and 18-20 have been amended. Claims 21-25 have been added. Claims 2-4, 9 and 10 have been canceled. Claims 1, 5-8 and 11-25 are in the application upon entry of this amendment. A Declaration Under 37 C.F.R. 1.132 is enclosed. A petition to claim the benefit under 35 U.S.C. §120 of a prior copending nonprovisional application is enclosed. A terminal disclaimer to overcome an obviousness-type double patenting rejection is enclosed. Entry of this amendment, and reexamination and reconsideration of the present application in light of the above amendments and the following remarks are respectfully requested.

The Examiner has indicated that in order to claim priority under 35 U.S.C. §120 to U.S. Application Serial No. 09/152,852 an amendment to the specification and a petition under 37 C.F.R. 1.78 must be submitted. The required amendment is provided on page 2 of this paper. The required petition is enclosed. Applicants respectfully submit that the requirements for claiming priority under 35 U.S.C. §120 to U.S. Application Serial No. 09/152,852 have been fully met.

The Examiner has rejected claims 1-20 for obviousness-type double patenting over claims in U.S. Application Serial No. 09/152,852, but has indicated that this rejection could be overcome with the filing of an appropriate terminal disclaimer. Enclosed with this response is the required terminal disclaimer. Withdrawal of the rejection is believed to be warranted and is respectfully requested.

Claims 1 and 18 have been amended by specifying that the acylating agent contains at least one hydrocarbyl substituent group and at least one succinic group and is characterized by the presence within its structure of at least about 1.3 succinic groups for each equivalent weight of the hydrocarbyl substituent. Claims 19 and 20 have been amended by specifying that the polyisobutene substituted succinic acid or anhydride is characterized by the presence within its structure of at least about 1.3 succinic groups for each equivalent weight of the polyisobutene substituent. Support for these amendments can be found in the applicants' specification at page 10, lines 24-31.

New claims 21-25 have been added to specify that the acylating agent is made by reacting one or more alpha-beta olefinically unsaturated carboxylic acid reagents or

reactive equivalents thereof with one or more olefin polymers. Support for claims 21-25 can be found in the applicants' specification at page 7, line 11 to page 8, line 2 and page 8, line 23 to page 9, line 29.

Claims 1-20 have been rejected under 35 U.S.C. §103(a) as unpatentable over Ford (U.S. Patent 3,756,794), in view of Forsberg (U.S. Patent 4,447,348) and Schwab (U.S. Patent 5,699,938). The rejection as it would apply to claims 2-4, 9 and 10 is now moot in view of the cancellation of these claims. The rejection as it would apply to claims 1, 5-8 and 11-20 is respectfully traversed for the following reasons.

Before discussing the rejection, the Examiner's attention is directed to the declaration under 37 C.F.R. 1.132 which is being filed with this response. This declaration is a copy of the same declaration filed in the parent application for this case, U.S. Serial No. 09/152,852. In this declaration the applicants report the results of a series of tests that were conducted wherein emulsions within the scope of the applicants' independent claims 1, 18 and 19 were prepared and found to be stable, while emulsions prepared in accordance with the teachings in Ford were found to be unstable. In the declaration it is reported that three formulations were prepared and tested. Two of the formulations, namely, Formulations A and B, were within the scope of the applicants' independent claims 1, 18 and 19. The third formulation, Formulation C, was prepared in accordance with the teachings in Ford. Each of the formulations contained diesel fuel, water, ammonium nitrate and a surfactant.

Surfactant No. 1 which was used in Formulations A and B, was an ester/salt made by reacting a polyisobutene (Mn=2000) substituted succinic anhydride (ratio of succinic groups to polyisobutene equivalents = 1.7:1) with dimethyl ethanol amine. Surfactant No. 2, which was used in Formulation B, consisted of an ester/salt made by reacting hexadecenyl succinic anhydride with dimethyl ethanol amine. Surfactant No. 3, which was used in Formulation C, was Triton X-102 which is identified in Ford at column 2, lines 9-12, as being a "particularly advantageous emulsifier." Ford indicates that Triton X-102 is a condensate of an octyl phenol and ethyleneoxide.

The applicants' independent claims 1, 18 and 19 read on the use of Surfactant No. 1 as employed in Formulation A, and on the use of a mixture of Surfactants Nos. 1 and 2

as employed in Formulation B as the emulsifying agent specified in such claims. The applicants' independent claims 1, 18 and 19 do not read on the use of Triton X-102 as employed in Formulation C as the emulsifying agent (C).

In the declaration it is reported that Formulations A, B and C were blended under two different sets of conditions. With one of the sets of conditions the formulations were mixed in a Waring blender for 20 seconds and then allowed to stand for three hours at room temperature. With the other set of conditions the formulations were mixed in the Waring blander for five minutes and then allowed to stand for three hours at room temperature. In each instance Formulations A and B were found to form stable emulsions. In each instance, Formulation C, which was prepared in accordance with the teachings in Ford, was found to form an unstable emulsion. Photographs of each of the emulsions are attached to the declaration. These photographs clearly indicate the differences between the stable emulsions that were formed using Formulations A and B, and the unstable emulsions that were formed using Formulation C.

In the rejection the Examiner argued that Ford teaches "a wide range of emulsifiers" and "differs from the instant claims in not disclosing the instantly claimed emulsifiers" Ford does not disclose or suggest the emulsifiers (C) specified in Applicants' claims 1, 5-8 and 11-20. Although Ford indicates that a wide range of emulsifiers can be employed, the only emulsifiers actually disclosed are those having an HLB of 11-16 and condensates of alkyl phenol and alkylene oxide (column 1, line 65 to column 2, line 14). Ford indicates that a "particularly advantageous emulsifier" is a condensate of octyl phenol and ethylene oxide which is sold under the trademarks Nonidet P80 or Triton X-102. Each of the examples disclosed in Ford contained either Nonidet P80 or Triton X-102. The test results disclosed in applicants' declaration demonstrate that the emulsifier specified in the applicants' independent claims 1, 18 and 19 when used for making water-blended fuel compositions is superior to Triton X-102.

The Examiner admits that Ford does not disclose the emulsifier specified in the Applicants' claims. To make up for this deficiency the Examiner cites Forsberg. Although Forsberg discloses certain carboxylic solubilizers, it does not disclose an acylating agent containing at least one hydrocarbyl substituent group and at least one succinic group and

characterized by the presence within its structure of at least about 1.3 succinic groups for each equivalent weight of the hydrocarbyl substituent as specified in the applicants' claims 1, 5-8 and 11-20.

Schwab is cited for its disclosure of certain organic nitrate ignition improvers to water-in-oil emulsions. This reference does not, however, disclose or suggest the fuel-soluble salt emulsifier (C) required by the Applicants' claims 1, 5-8 and 11-20.

Applicants respectfully submit that the teachings in Ford taken in combination with the teachings in Forsberg and Schwab fail to render obvious the invention defined by the Applicants' claims 1, 5-8 and 11-20. None of these references disclose the emulsifiers specified in the Applicants' claims 1, 5-8 and 11-20.

It is thus respectfully submitted that the Applicants' claims 1, 5-8 and 11-20 are not obvious over the teachings in Ford taken in combination with the teachings in Forsberg and Schwab but, in fact, define a patentable invention. Accordingly, withdrawal of the rejection is believed to be warranted and is respectfully requested.

Applicants respectfully submit that the application is now in condition for allowance. A Notice of Allowance is solicited.

Any fees required by the filing of this response can be charged to Deposit Account No. 12-2275.

Respectfully submitted,

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